

AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A charge/discharge device integral with a low impedance current pool structure, for application in a primary cell, or in a secondary rechargeable/dischargeable cell, or still in a fuel cell or in a capacitor or in a super capacitor, similar charging/discharging device, complete with one or more current pool means to yield multiple current converging paths, characterized in connecting in parallel current confluent terminals as provided in tanks of like polarities, in tanks of unlike polarities but of identical voltage specifications, and those on electrode boards of like polarities, or alternatively in connecting in series or in compound serial/parallel connections current confluent terminals between electrode boards of unlike polarities in tanks of dissimilar electrodes; and in that the exterior sides of the electrode boards of either positive or negative polarity furnished on either side of each individual electrode tank are produced into such a low impedance texture such that it is made advantageous to confluent currents, be it incoming or outgoing,

wherein the low impedance current pool structure further is connected into a tank of identical polarity electrodes, or a tank of dissimilar polarity electrodes by means of coupling conductors, whereof said current pool terminals of identical potentials and identical polarity are in parallel, or serving to be connected with current pooling terminals between electrode boards of dissimilar polarities in a tank of dissimilar electrodes, executed in serial connection or compound serial/parallel connection,

characterized in that the positive or negative polarity electrode board can be composed of other low impedance materials, and as part of which the current pool terminals for input/output purposes can be provided singly or plurally, on a single side or on more than one side.

Serial Number 09/884,031

2. (Canceled)

3. (Canceled)

4. (Currently Amended) A ~~storage/discharge~~charge/discharge device according to claim 1, whereof the design in respect of ~~the~~an improvement of the positive or negative ~~exteriority~~exterior of the electrode board on both sides of the independently installed electrode tank is thus: having one or more piece of paralleled positive electrode board ~~P100~~ and as matched thereto, one or more piece of paralleled negative electrode board ~~P100~~, set in individual electrode tanks to constitute individual electrode pairs, then ~~have~~having a flat plate form current pool conductor assembly of chosen material and made to specified thickness installed ~~way~~ between respective current pool terminals on the ~~exteriority~~ of positive or negative electrode board ~~P200~~ on both sides of each individual electrode tank, so that it is made that the impedance prevalent way between the current pool terminals on the periphery of the external positive or negative electrode board ~~P200~~ is inferior to that impedance prevailing across the normal electrode surface duly applied with one layer of chemically active material in lattice configurations on the same electrode board.

5. (Currently Amended) A ~~storage/discharge~~charge/discharge device according to claim 1, whereof the ~~exteriority~~exterior of the external electrode board in respective individual electrode tank is processed into a current pool conductor in the form of a plank lamina or thickened lamina of uniform elements or non-uniform elements processed to present a slope.

6. (Currently Amended) A ~~storage/discharge~~charge/discharge device according to claim 1, whereof the outside of the positive or negative electrode board ~~P200~~ on both sides of the individual present in the independently installed electrode tank, ~~way~~ between respective current pool terminals ~~T100~~, is processed straight into a webform conductor assembly of chosen thickness.

Serial Number 09/884,031

7. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof in the individual electrode pairs formed in the independently installed electrode tank, ~~way~~ between the current pool terminals outside the positive or negative polarity electrode board ~~P200~~ on both sides, pieces or webform or stripe form current pool conductor assembly are interconnected by soldering, welding, riveting, screw coupling, prestressed bonding, internal burial, laying or otherwise technique, in order that the impedance prevailing between the current pool terminals ~~T100~~ on the perimeter of the externally provided positive or negative polarity electrode boards be controlled inferior to the impedance on the normal electrode surface on the other side of the same electrode board that is applied with a lattice work of chemically active coating.

8. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof the said electrode board with plate form terminals on the outside is good for connection to two or more than two independent electrode tanks, and hence good for like polarity on like polarity paralleling or opposite polarity serial connection under the same voltage specifications.

9. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof ~~required~~ on that side of the externally provided plate-form terminal electrode board meant to couple with current pool terminals coming from other electrode tanks may be mounted two or more than two current pool terminals to thereby account for multiple coupling possibilities so that impedance is lowered in the long run.

10. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof the current conductor assembly outside the positive or negative electrode board ~~P200~~ on both sides of the individual electrode tank in particular, are provided two current pool terminals ~~T100~~ to accommodate serial or parallel combination with each electrode tank where multiple sets of electrode tanks are deployed for application.

11. (Currently Amended) A ~~storage/discharge~~charge/discharge device according to claim 1, whereof with a view to further reduce the impedance on the part of both the current pool terminal and of the electrode board, a feasible approach is to process the current pool terminal trapezoidal extending outwardly, such that the wider base of the trapezoidal current pool terminal is coupled to the electrode board, whereby the internal impedance on the terminal, output or input, of the electrode board, is duly reduced;

examples of application of the aforementioned trapezoidal current pool terminal and electrode boards include: normal electrode boards ~~P100~~ with both sides applied with latticed chemically active coating, two or more than two outputting or inputting current pool terminal ~~T100~~ on the outside of the positive or negative polarity electrode board ~~P200~~ on both sides of each electrode tank, possible for mounting on one side or more sides of the electrode board ~~P100~~ or the positive or negative electrode board ~~P200~~, or for one or more current pool terminal to be installed on two or more sides of the electrode board ~~P100~~ or of the positive or negative polarity electrode board.

12. (Currently Amended) A ~~storage/discharge~~charge/discharge device according to claim 1, whereof two trapezoidal current pool terminals ~~T100~~ are included in the middle of one external side of the positive or negative electrode board ~~P200~~ on both sides of ~~the~~ at least one said individually installed electrode tank, ~~just to make for a~~ correspondent positive or negative electrode pair with the electrode board.

13. (Currently Amended) A ~~storage/discharge~~charge/discharge device according to claim 1, whereof trapezoidal current pool terminals ~~T100~~ are provided on both sides of the ~~exteriority~~ exterior of the positive or negative electrode board ~~P200~~ on both sides of each individual electrode tank, to form electrode pair with electrode board symmetrically.

14. (Currently Amended) A ~~storage/discharge~~charge/discharge device according to claim 1, whereof on either of both external sides of the positive or negative electrode board ~~P200~~ on both sides of at least one said individual electrode tank are installed two trapezoidal current pool

Serial Number 09/884,031

terminals ~~T100~~, extending outwardly, characterized in that a dimensional differential exists between the hunch peak of current pool terminals on the same sides of the trapezoid and the edges on both sides of the electrode board so that once an electrode pair is produced by superposing the backsides of the two similarly configured electrode boards, interwoven superposition is made involving the positive/negative polarity electrodes of adjacent electrode boards, with current pool terminals ~~T100~~ intercrossing but not intervening each other, so as to facilitate interactive coupling, with better current pooling effects realized on the basal area of the wider trapezoid.

15. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof three externally extending trapezoidal current pool terminals ~~T100~~ are installed on each external side of the positive or negative polarity electrode board ~~P200~~ on both sides of ~~the~~ at least one said electrode tank, characterized in that a dimensional differential exists between the ~~hunchback~~ hunch peak of current pool terminals on the same side of the trapezoid and the edges on both sides of the electrode board, so that once an electrode pair is produced by superposing the backsides of the two similarly configured electrode boards, interwoven superposition is made involving the positive/negative polarity electrodes of adjacent electrode boards, with current pool terminals ~~T100~~ intercrossing but not intervening each other, so as to facilitate interactive coupling, with better current pooling effects realized on the basal area of the wider trapezoid.

16. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof an outwardly extending trapezoidal current pool terminal ~~T100~~ are installed on two opposite sides of a quadrilateral positive or negative electrode board ~~P200~~ on both sides of at least one said individually installed electrode tank, characterized in that a dimensional differential is maintained between the hunch peak of current pool terminals on the same sides of the trapezoid and the edges on both sides of the electrode board so that once an electrode pair is formed by superposing the backsides of the two similarly configured electrode boards, interwoven super-positions is made involving the positive/negative polarity electrodes of adjacent electrode boards, with current pool terminals ~~T100~~ intercrossing but not intervening each other,

Serial Number 09/884,031

so as to facilitate interactive coupling, with better current pooling effects realized on the basal area of the wider trapezoid.

17. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof two outwardly extending trapezoidal current pool terminals ~~T100~~ are installed on two opposite sides of a quadrilateral positive or negative electrode board ~~P200~~ on both sides of at least one said individually installed electrode tank, characterized in that a dimensional differential is maintained between the hunch peak of current pool terminals on the same sides of the trapezoid and the edges on both sides of the electrode board so that once an electrode pair is formed by superposing the backsides of the two similarly configured electrode boards, interwoven super-positions is made involving the positive/negative polarity electrodes of adjacent electrode boards, with current pool terminals ~~T100~~ intercrossing but not intervening each other, so as to facilitate interactive coupling, with better current pooling effects realized on the basal area of the wider trapezoid.

18. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof three outwardly extending trapezoidal current pool terminals ~~T100~~ are installed on two opposite sides of a quadrilateral positive or negative electrode board ~~P200~~ on both sides of at least one said individually installed electrode tank, characterized in that a dimensional differential is maintained between the hunch peak of current pool terminals on the same sides of the trapezoid and the edges on both sides of the electrode board so that once an electrode pair is created by superposing the backsides of the two similarly arrayed electrode boards, interwoven superposition is made involving the positive/negative polarity electrodes of adjacent electrode boards, with current pool terminals ~~P100~~ intercrossing but not intervening each other, so as to facilitate interactive coupling, with better current pooling effects realized on the basal area of the wider trapezoid.

19. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof an outwardly extending trapezoidal current pool terminal ~~T100~~ on two opposite sides

Serial Number 09/884,031

of a quadrilateral positive or negative electrode board ~~P200~~ on both sides of at least one said individually installed electrode tank, characterized in that a dimensional differential is maintained between the hunch ~~back~~ peak of current pool terminals on the same sides of the trapezoid and the edges on both sides of the electrode board so that once an electrode pair is created by superposing the backsides of the two similarly configured electrode boards, interwoven superposition is made involving the positive/negative polarity electrodes of adjacent electrode boards, with current pool terminals ~~P100~~ intercrossing but not interfering each other, so as to facilitate interactive coupling, with better current pooling effects realized on the basal area of the wider trapezoid.

20. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof two outwardly extending trapezoidal current pool terminals ~~T100~~ are installed on two opposite sides of a quadrilateral positive or negative electrode board ~~P200~~ on both sides of at least one said individually installed electrode tank, characterized in that a dimensional differential is maintained between the hunch back of current pool terminals on the same sides of the trapezoid and the edges on both sides of the electrode board so that once an electrode pair is created by superposing the backsides of the two similarly configured electrode boards, interwoven superposition is made involving the positive/negative polarity electrodes of adjacent electrode boards, with current pool terminals ~~P100~~ intercrossing but not interfering with each other, so as to facilitate interactive coupling, with better current pooling effects realized on the basal area of the wider trapezoid.

21. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof in its application to quadrilateral or nearly quadrilateral electrode boards, apart from the provision of current pool terminals on two or four sides, it is also feasible to provide current pool terminals on three sides of the electrode board too, and the configuration of said electrode board is not restricted to a quadrilateral only, indeed it can instead take the form of a circle, a near circle, an ellipse, a near ellipse, a triangle, a polylateral, including without limitation: triangle, quadrilateral, quintuple lateral, hexagon, septuple lateral, octuple lateral, with each electrode

Serial Number 09/884,031

board furnished with two or more than two current pool terminals so that each electrode board is equipped with two or more than two current pooling loops.

22. (Canceled)

23. (Currently Amended) A ~~storage/discharge~~ charge/discharge device according to claim 1, whereof apart from the input/output current pool terminals on the positive, negative electrode boards on both sides of ~~the~~ each electrode tank which, as required, may be installed singly or plurally, on one side or on more sides, all the other electrode boards can be structured such that one or more current pool terminal individually extending outwards are installed on two or more than two sides on individual electrode boards; or such that two or more than two current pool terminals are all installed on just one side or more sides, to enable multiple current path paralleling converged on electrode boards of like polarities, or instead multiple path series connection between electrode boards of dissimilar polarities; structurally, the current pool terminals are made of hardcore or hollow-set tubular rod conductors bearing circular, square, otherwise geometric configurations, to be mounted into position across the conductive penetration holes present ~~way~~ between the electrode boards of the ~~storage/discharge~~ charge/discharge device, so that parallel connection is made possible with electrode boards of like polarities, or alternatively serial connection is made among electrode boards of dissimilar polarities, so still so that a combined serial/parallel connection is consummated: further parallel execution is extended to encompass the current pool terminals, being conductor themselves, such that they, of identical voltage specifications and on electrode boards of like polarities, from the same or different electrode tanks, the extension goes to series connection too, by interconnecting current pool terminals between electrode boards of different polarities from dissimilar electrode tanks serially and hence compound serial/parallel combination is made possible forthwith, and that complemented with the effort of a low impedance structure whereby input/output current pool terminals are combined to facilitate pooling of incoming/outgoing currents, on the ~~exteriority~~ exterior of positive or negative electrode boards on both sides of individually installed

electrode tanks, or alternatively supplemented with parallel run current pool conductors in an effort to reduce impedance to the confluent incoming or outgoing currents.

24. (Currently Amended) A ~~charge/Discharge Device~~ charge/discharge device according to claim 1, wherein low impedance current pool conductive structure includes plate or strip or web form structure for connection to respective output/input current pool terminals ~~P100~~ of which individual electrode tanks are installed outside the positive or negative polarity electrode board ~~P200~~, on both sides of the electrode tank, or other low impedance current pool conductor assembly made of chosen materials in otherwise geometrical configurations.

25. (Previously Presented) A charge/discharge device according to claim 1, wherein low impedance current pool conductive structure includes plate or strip or web form structure for connection to respective output/input current pool terminals of which individual electrode tanks are installed outside the positive or negative polarity electrode boards on both sides of the electrode tank, with areas between consecutive output current pool terminals interconnected by welding, soldering, riveting or screwing technique, or prestressed, or burial or inlay or otherwise means, to facilitate pooling of input/output currents, or other low impedance current pool conductor assembly of chosen material in otherwise geometrical configuration.

26. (Previously Presented) A charge/discharge device according to claim 1, wherein low impedance current pool conductive structure includes plate or strip or web form structure with output/input current pool terminals associated with the overall storage/discharging device being installed outside the positive or negative polarity electrode board on both sides of the electrode tank, to facilitate transiting of incoming/outgoing current pool, or low impedance current pool conductor assembly of chosen material but otherwise geometrical configuration, said plate form encompassing thickened board of uniform or non-uniform, tilted sheets.

27. (Currently Amended) A charge/discharge device according to claim 1, wherein low impedance current pool conductive structure includes current pool terminals for input/output

Serial Number 09/884,031

purposes secured by soldering, welding, riveting, screwing, prestressing technique or by burial, inlay or otherwise means among themselves, established outside the positive or negative polarity electrode boards on both sides of the electrode tank, led to correspondent terminals on the master ~~storage/discharge Assembly~~ charge/discharge assembly, in plate or strip or web form to facilitate pooling of incoming/outgoing currents, being a low impedance conductive assembly of a chosen geometry or otherwise materials.

28. (Previously Presented) A charge/discharge device according to claim 1, wherein low impedance current pool conductive structure includes interconnect pieces or bars of conductors of a chosen geometry and of chosen materials interposed between parallel conductors between sets of input/output current pool terminals on a plurality of electrode boards of like polarities.

29. (Previously Presented) A charge/discharge device according to claim 1, wherein low impedance current pool conductive structure includes interconnect pieces or bars of chosen geometry and material incorporated additionally between a plurality of serially parallelly connected conductors on input/output current pool terminals on sets of electrode boards of dissimilar polarities.